

Title (en)
METHOD AND INSTALLATION FOR THE PRODUCTION OF HYDROGEN FROM A FEED CONTAINING HYDROGEN AND HYDROCARBONS

Title (de)
VERFAHREN UND ANLAGE ZUR GEWINNUNG VON WASSERSTOFF AUS EINEM WASSERSTOFF UND KOHLENWASSERSTOFFE
ENTHALTENDEN EINSATZGEMISCH

Title (fr)
PROCEDE ET INSTALLATION DE PRODUCTION D'HYDROGENE A PARTIR UN MELANGE DE CHARGE CONTENANT UN HYDROGENE ET
DES HYDROCARBURES

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Application
EP 16734313 A 20160629

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Abstract (en)
[origin: WO2017001514A1] The invention relates to a method (100, 200) for obtaining hydrogen from a gaseous feed mixture which is enriched with hydrogen, methane, and hydrocarbons with two carbon atoms. The fluid of the feed mixture is cooled from a first temperature level to a second temperature level at a first pressure level such that one or more condensates are separated from the fluid of the feed mixture while leaving a residual gas. The fluid of the residual gas is further cooled to a third temperature level and subjected to a countercurrent absorption at the first pressure level, thereby obtaining a hydrogen- and methane-enriched head gas and a bottom liquid. The fluid of the head gas is heated and subjected to a pressure swing adsorption (9) at the first pressure level, thereby forming a hydrogen-enriched product flow which has a low methane content or which is methane-free, and the fluid of the condensate(s) and/or of the bottom liquid is expanded from the first pressure level to a second pressure level and fed to a low-pressure demethanizer at the second pressure level. According to the invention, the countercurrent absorption is carried out using fluid which is removed from the low-pressure demethanizer at the second pressure level, compressed to the first pressure level in the gaseous state, and cooled to the third temperature level. The invention likewise relates to a corresponding system.

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